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# TECHNICAL NOTES

of the

STN PUB ALASKA FOREST RESEARCH CENTER  
U. S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE

ROCKY MOUNTAIN STATION

No. 22

JUNEAU, ALASKA

## Range of Western Redcedar (*Thuja plicata*) in Alaska

The exact limits of the range of western redcedar (*Thuja plicata*) D. Don, in Southeast Alaska have always been in question.

Sudworth (3) reported it as extending to Sitka and to Skagway at the head of Lynn Canal. Hultén (2) states it is confined to the southernmost part south of 56° N. lat. Anderson (1) states it extends to about 57° N.

Actually, no one had investigated the northern extension of western redcedar in Southeast Alaska with any degree of accuracy until 1952 when the Alaska Forest Research Center, in conjunction with other work, attempted to delineate it more carefully. The result, indicating its range as near as can be determined, is shown in the attached figure. The northern limits appear to be sharply defined along the north and west shores of Sumner Strait. Within its range in Alaska the species occurs generally on the poorer, usually ill-drained, sites.

The figure also shows isotherms of accumulated temperature units above 42° F. for April-September, inclusive. For the period the difference between the normal mean monthly temperatures above 42° F. was multiplied by the days in the month and totaled. There are not sufficient climatological stations to permit a precise plotting of an isotherm, but the values do fall into a definite pattern and provide some indication of the distribution of summer temperatures. It can be seen that they follow rather closely and lie between the 1700 and 1600 isotherm. The range of *Thuja plicata* was also compared to an isohyetal map and a map on which the normal mean temperature of the three coldest months of the same station were plotted. In neither case was there any apparent relationship. Apparently, temperatures during the growing season largely determine the limits of the range of *Thuja plicata* in Alaska.

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- (1) Anderson, J. P., 1943. Flora of Alaska and adjacent parts of Canada, Part I. Iowa State College Journal of Science, Vol. XVIII, pp. 137-175.
  - (2) Hultén, E., 1941. Flora of Alaska and Yukon. Lunds Universitets Arsskrift NF Avd 2 Bd 37 Nr 1.
  - (3) Sudworth, G. S., 1908. Forest trees of the Pacific slope. U.S. Dept. Agr., Forest Service.

March 1953

H. E. Andersen

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ALASKA STATE UNIVERSITY  
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RANGE OF  
**WESTERN RED CEDAR**  
(*Thuja plicata*)  
IN ALASKA

ISOTHERM OF ACCUMULATED  
DAY-DEGREES OF  
MONTHLY MEAN TEMPERATURE  
ABOVE 42°F.  
APRIL-SEPT

ALASKA FOREST RESEARCH CENTER

TONGASS NATIONAL FOREST  
ALASKA

Scale

0 15 30 45 miles

DIXON ENTRANCE

